

Mode of Delivery: A Classroom Assessment Technique Comparison Between Verbal and Non-Verbal Communication

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This study explores how using Classroom Assessment Techniques (CATs) in phone conversations with students may help to clarify learning objectives and encourage active learning in distance education. For this study, research was collected from introductory undergraduate online courses at a university in the Southwest. Data was collected from three classes where the instructor delivered a CAT during a phone conversation and in three classes where the instructor delivered the CAT in the section discussion forums. Both CATs were delivered during the first week of class and used as a formative assessment technique to increase the student's comprehension of the formatting required in the weekly summative assignment. The results of this study showed that the students who received the CAT verbally had a slight increase in demonstrating correct formatting on the assignment; however, both modes of delivery lead to an increase in the student's understanding of this element. Further studies regarding the use of phone conversation to assess student learning is suggested.

Research has shown there is a perceived lack of quality in regards to assessment feedback in higher education (Ferguson, 2011). A problem with Classroom Assessment Techniques (CATs; Angelo & Cross, 1993) in online higher education platforms today is that students do not perceive instructor feedback as helpful. This can result in the learners becoming disinterested thereby reducing the value of a learning opportunity (Ferguson, 2011). By engaging learners across multiple mediums, instructors are able to directly assess student engagement and understanding. Examples of direct contact and engagement include telephone, email, and online instructional platforms designed specifically to simulate the traditional classroom. Blackboard, Angel, and LoudCloud represent a few examples of these learning platforms that connect instructors and learners in real time. Actively engaging students in phone conversation is one way to change learner perceptions of the value of the instructor feedback and enhance the higher education experience for non-traditional students. This paper will discuss the

effectiveness of a Classroom Assessment Technique when delivered verbally (telephone) versus non-verbally (electronic communication, e.g. email, online forum) as a strategy in an introductory undergraduate online course.

BACKGROUND

The literature review contained herein addresses the following considerations within a discussion of CATs in an online learning environment: student engagement, instructor-learner communication methods, and assessment techniques. These three areas are examined for their prevalence in education literature over the past twenty years (Angelo & Cross, 1993; Fluckiger, Vigil, Pasco, & Danielson, 2010; Moore & Kearsley, 1996; Vonderwell & Boboc, 2013).

Classroom Assessment Techniques help faculty determine which students are and in some cases, are not, learning (Angelo & Cross, 1993). These assessment techniques help monitor which learning objectives need to be focused on to make the learning

experience more specific and effective (Angelo & Cross, 1993). CATs are considered a formative assessment technique, as these exercises are often not graded but instead used to both foster student engagement and assess comprehension (Vonderwell & Boboc, 2013). CATs are a proactive approach to the teaching and learning process (Vonderwell & Boboc, 2013). Effectively using CATs in online education can be challenging due to the transactional distance between instructor and student. Face-to-face exchanges in a traditional classroom setting provide the opportunity for both instructor and learner to employ a broader range of strategies to fully acknowledge and engage various learning styles contained within student-teacher cognitive profiles. The physical distance in online learning may cause a communication gap and require an increase in innovative teaching techniques and learner behavior (Moore & Kearsley, 1996).

Using CATs in the online learning platform can help close the communication gap (Vonderwell, 2004). There are multiple ways to deliver a CAT in the online platform, as technology integration has become increasingly popular in online education. Communicating via email, instant messenger, video camera, or chat room are a few available web-based options. However, in introductory courses, instructors must be mindful of the learner's technological capabilities, as it can create a divide between those students with access to technological tools and those without access. Instructors should assess student learning at multiple points within the instructional process for which alternative modes may be more appropriate depending on the technological skills of the student (Vonderwell & Boboc, 2013).

In distance education, phone calls are an effective introductory entry point mode of delivery for a CAT. Phone conversations allow the instructor to assess the student's understanding of the material and address specific areas for improvement immediately. In addition, the instructor can gauge the student's learning style and technological preferences for mode of delivery for later use in the instructional process. During this initial conversation, the instructor has the ability to tailor the assessment technique to the student's unique needs and goals. Feedback tailored to each specific student leads to a more personal experience for the online learner.

Personalized assessment encourages active learning and combats challenges due to transactional distance. Interpersonal outreach strategies can open communication and create a learner-centered environment (Vonderwell, 2004). Effectively delivering a CAT is an active feedback technique that invites students to be partners in the learning experience. Studies have shown that involving students as partners in the assessment process enhanced higher order learning and increased student success. This is because providing frequent and meaningful assessment helps the student understand not only the need for improvement but also the reasons behind making the suggested changes (Fluckiger, et al., 2010). This leads to a more positive personalized experience in the online classroom, which can lead to higher student success and retention.

Further, research has supported the notion that positive communication from instructors leads to positive learning outcomes (Bailie, 2012). Personalized feedback has also been proven to be an effective technique to increase student motivation (Jarzebowski, Palermo, & Van de Berg, 2012). Motivation promotes personal accountability and encourages self-assessment in the learning process. To increase student motivation, it is effective to frame instructor feedback to the individual's unique needs through regulatory focused feedback (Jarzebowski et al., 2012). Regulatory focus is when an individual uses preferred strategies to achieve a goal (Higgins, 2005). This type of feedback is personal because it is specifically tailored to an individual's distinctive goals and requests. The person receiving the feedback has individual preferences and this should be considered when the feedback is being formulated and delivered (Higgins, 2005). Delivering a CAT over the phone allows the student to experience the regulatory fit feedback immediately.

While the purpose of delivering the CAT over the phone is to improve the student's learning experience and increase the student's success on future summative assignments, phone calls also allow the instructor to build rapport with the student as well as demonstrate verbal immediacy. Building a caring rapport and reinforcing personal mastery is important to online learners (Bailie, 2012). Verbal immediacy promotes effective learning, motivation, and cognitive development (Gorham, 1988). Immediacy refers to the degree to which an instruc-

tor can convey feelings in the student such as like or dislike or develop affective feelings (Mehrabian, 1971). Conveying these feelings is especially important in online education where the student does not have the ability to ascertain non-verbal cues that are apparent in traditional classroom settings.

Moreover, due to the transactional distance, effectively evaluating student performance is especially important (Vonderwell, 2004). Student performance can initially be influenced by learning style. Discovering the learning styles of students provides the instructor with information about the differences in learning preferences, which further guides the instructor in designing instructional strategies to support the different learning preferences (Saeed, Yun, & Sinnappan, 2009). These learning preferences can be established during a phone conversation. Once the initial conversation is held and learning preferences are established, the instructor can appropriately deliver the objectives of the curriculum per the student's specific learning style. Matching learning styles with technology preferences has shown to have a positive impact on academic performance (Saeed et al., 2009).

Overall, using phone calls to assess student learning can be an effective formative assessment technique in the online post-secondary setting because the instructor can assess the student's technological proficiency and their learning style, while providing immediacy and regulatory fit feedback.

METHODS

Due to the correlational nature of this study and the need to determine whether verbal delivery as opposed to non-verbal delivery of the CAT was significant, a between-group comparison was implemented. To determine the degree of impact, the independent variable was changed and manipulated from delivering the CAT manually in the discussion forum to delivering the CAT verbally over the telephone. The idea is that changes in the dependent variable after manipulating the independent variable are due to or caused by the manipulation (Creswell, 2008). Manipulating the independent variable should have an effect on the dependent variable, which is the correct usage of the university's required format for a week one assignment. This style is a version of APA formatting that all students in 100 and 200 level classes must use at the university.

PARTICIPANTS AND PROCEDURE

The participants for this study were selected from six sections in two introductory level bachelor's courses, both offered in the online platform. There were 127 participants in this sample. These classes represent the first course that every new student must take before moving forward with his or her program. The courses introduce students to the online learning environment and classroom requirements and are primarily taught by online full-time faculty members.

Next, each instructor was asked to use the same assessment technique in week one regarding the use of the university's required formatting style. The CAT used advised students that his or her first journal required the use of a particular style format and then assessed the student's understanding of the formatting style and the importance of following the specific guidelines. Three instructors delivered the CAT vocally during his or her welcome phone call. These calls were recorded and documented by the instructor. In addition, the calls adhered to the guidelines set forth by the Family Educational Rights and Privacy Act (FERPA). The other three instructors delivered the CAT manually by posting it in the weekly discussion forum inside the online classroom and were asked not to discuss the requirement during their welcome phone call. The faculty members delivering the CAT verbally were instructed to use the same verbiage used in the CAT delivered in the weekly DQ forum. After the assessment technique was delivered verbally or manually, each of the six instructors recorded how many of the students used the required style format in his or her week one assignment, which the CAT discussed.

Lastly, the researchers recorded the number of students in each of the six classes, the number of students that responded to the CAT, the number of students that submitted the week one assignment, and the number of students that successfully completed the assignment using the correct format, which was given in the classroom assessment technique either verbally or manually. It was hypothesized that the classes and students that received the CAT verbally would have a higher rate of style formatting use on the week one assignment.

RESULTS

The results of this study were divided into two categories: those who received the CAT verbally

and those who received the CAT non-verbally. The results of the two categories were then compared to determine whether an increase in the use of required style formatting was accomplished by using voice delivery.

Class one consisted of 20 online students in which 12 were reached by phone and received the CAT verbally. Of the 20 students, 17 completed the week one assignment and 10 students successfully used the required style formatting. This yields a 58.8% usage of the required style formatting, which excludes the missing data.

Class two consisted of 20 online students in which all 20 were reached by phone and received the CAT verbally. Of the 20 students, 19 completed the week one assignment and 18 students successfully used the required style formatting. This yields a 94.7% usage of the required style formatting, which excludes the missing data.

Class three consisted of 22 online students in which 17 were reached by phone and received the CAT verbally. Of the 22 students, 21 completed the week one assignment and 19 students successfully used the required style formatting. This yields a 90.5% usage of the required style formatting, which excludes the missing data.

Class four consisted of 24 online students, which received the CAT manually in the online discussion forum of which three students acknowledged by replying to the CAT in the discussion forum. Of the 24 students, 18 completed the week one assignment and 12 students successfully used the required style formatting. This yields a 66.7% usage of the required style formatting, which excludes the missing data.

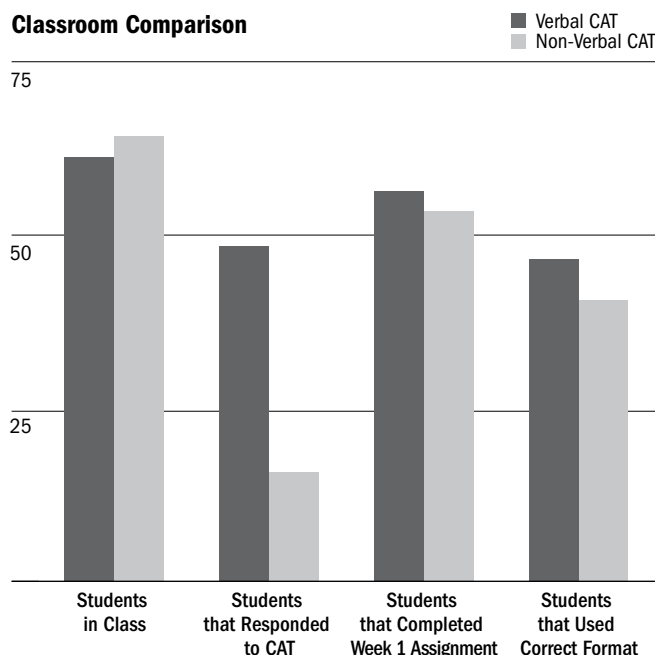
Class five consisted of 22 online students, which received the CAT manually in the online discussion forum of which six students acknowledged by replying to the CAT in the discussion forum. Of the 22 students, all 22 completed the week one assignment and 19 students successfully used the required style formatting. This yields an 86.4% usage of the required style formatting, which excludes the missing data.

Class six consisted of 19 online students, which received the CAT manually in the online discussion forum of which seven students acknowledged by replying to the CAT in the discussion forum. Of the

19 students, 14 completed the week one assignment and 10 students successfully used the required style formatting. This yields a 71.4% usage of the required style formatting, which excludes the missing data.

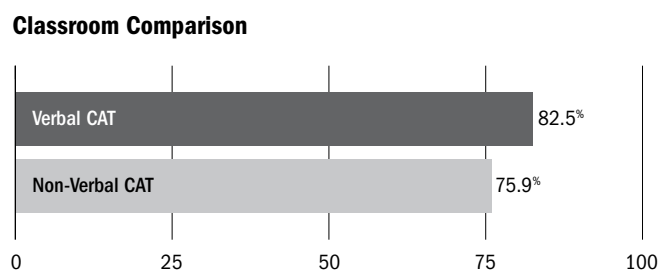
Classes one through three were combined in Figure 1 to make up the verbal CAT category, and classes four through six were combined to make up the non-verbal CAT category.

Figure 1: Classroom comparison



Overall, the three classes that delivered the CAT verbally had an 82.5% success rate whereas the three classes that delivered the CAT manually in the classroom had a 75.9% success rate using the required style template on the week one assignment as shown in Figure 2.

Figure 2: CAT effectiveness comparison



DISCUSSION

The results of this study show that while there was a slight increase in effectiveness, there was not a significant improvement when the CAT was delivered verbally over the phone as opposed to non-verbally by posting in the discussion forum. While these findings may not yield significant results, they do however show that the implementation of a CAT yielded a high percentage of comprehension of the formatting requirements for the week one assignment. This aligns with previous studies that prove CATs are an effective method for student comprehension (Angelo & Cross, 1993; Lei, 2008; Vonderwell & Bobac, 2013).

Additionally, as seen in Figure 1, the number of students that responded to the non-verbal CAT was significantly lower than those who responded verbally. It is important to note that students in the classes that received the CAT non-verbally within the discussion forum had access to view all posts within the forum without directly responding to it. Therefore, the number of students that responded to the CAT in the forum does not fully illustrate actual usage of the required style formatting for the week one assignment.

Based on the data presented, it appears that both modes of delivery produced a high percentage of students that were able to demonstrate the elements assessed in their weekly assignment. Verbal communication provides an alternative platform for the instructor to assess the student's comprehension of the material, even though the data in this study yielded similar results for both modes of communication. The use of a CAT alone, regardless of mode of delivery, is an effective teaching strategy.

LIMITATIONS AND FUTURE RESEARCH

Even though the contributions of this research study are apparent, it is not without limitations. First, the data was collected from a small sample of students ($N = 127$). This makes it difficult to determine statistical significance in order to determine or assume a causal relationship. Further research would be beneficial with a larger sample of students in order to exemplify the population of students, which they are intended to represent.

Second, the data was not compared to a control group who did not receive a CAT. Since the

requirement to use the required style formatting is outlined in the week one assignment directions, a control group would have provided useful information in regards to whether verbal or automated delivery is even necessary. The research findings would be stronger if they still hold after being compared to a control group.

Third, variables that could limit the generalizability of the results were not taken into consideration such as gender, age, incoming GPA, transfer credits, second language learners, and, most importantly, technology proficiency considering the fact that the successful usage of required style formatting depends on working knowledge of Microsoft Word. In addition, it would be interesting to also take into account each student's preferred learning and intelligence style, as this will affect the learner's comprehension based on mode of delivery. For example, an auditory learner would benefit more from a verbally delivered CAT as opposed to the written CAT.

After extensive review, little research was uncovered on vocal communication in the online platform, but it has been shown that extra communication efforts from the teacher can reduce the student's concerns about course information, assignments, and objectives (Berge, 2013). Affirmative communication, whether it is delivered verbally or non-verbally, has an impact on student outcomes in both traditional and non-traditional settings (Bailie, 2012). Bailie (2012) outlined four behaviors to create an online environment that increases learning, including initiating and maintaining contact, adjusting communication to different learning styles, promoting personalization, and creating presence through communication. Delivering a CAT vocally aligns with these behaviors by increasing active learning in the online environment.

Further research in the area of verbal communication in the online platform can have significant implications for the online teacher and online learner in regards to maximizing student learning. Global technology calls for an increase in teaching techniques to meet its ever-changing needs. The delivery of assessment techniques in the online platform is one of the many techniques worth exploring.

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